

### **REMARKS**

This is a full and timely response to the final Office Action of October 31, 2007. Upon entry of this Second Response, claims 1-33 remain pending in this application. Reexamination, reconsideration, and allowance of the application and all presently pending claims are respectfully requested.

### **Response to §103 Rejections**

In order for a claim to be properly rejected under 35 U.S.C. §103, the combined teachings of the prior art references must suggest all features of the claimed invention to one of ordinary skill in the art. See, e.g., *In Re Dow Chemical Co.*, 837 F.2d 469, 5 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1988), and *In re Keller*, 642 F.2d 413, 208 U.S.P.Q. 871, 881 (C.C.P.A. 1981).

Page 4 of the Office Action indicates that claims 1, 7, 10, 15, 16, 19, 31, and 32 are rejected under 35 U.S.C. §103 as allegedly being unpatentable over *Iga* (U.S. Patent No. 5,065,241). However, the reasoning for the rejections includes references to *Jones*. Accordingly, Applicants believe that the Examiner intended to reject claims 1, 7, 10, 15, 16, 19, 31, and 32 based on a combination of *Jones* and *Iga*. It will be assumed hereafter that claims 1, 7, 10, 15, 16, 19, 31, and 32 are rejected 35 U.S.C. §103 as allegedly being unpatentable over the teachings of *Jones* in view of *Iga*.

### Claim 1

Claim 1 presently stands rejected under 35 U.S.C. §103 as purportedly being unpatentable over *Jones* (U.S. Patent No. 6,697,768) in view of *Iga* (U.S. Patent No. 5,065,241).

Claim 1 reads as follows:

1. An anomaly detection system, comprising:  
***an echo canceler having a plurality of taps respectively associated with a plurality of tap coefficients; and***  
anomaly detection logic configured to determine a difference between a new tap coefficient associated with one of the taps and a previous tap coefficient associated with the one tap, ***the anomaly detection logic configured to perform a comparison between the difference and a threshold and to detect an anomaly along a telecommunication line based on the comparison.***  
(Emphasis added).

Even if the alleged combination of *Jones* and *Iga* is assumed to be proper for the sake of argument, Applicants respectfully assert that the alleged combination fails to suggest at least the features of pending claim 1 highlighted hereinabove. Thus, the 35 U.S.C. §103 rejection of claim 1 is improper.

In this regard, it is candidly admitted in the Office Action that *Jones* fails to suggest “using a difference in two sets of filter coefficients to detect anomalies.” However, it is alleged in the Office Action that:

“*Iga* teaches a configuration to determine a difference between a new tap coefficient associated with one of the taps and a previous tap coefficient associated with the one tap, the anomaly detection logic configured to perform a comparison between the difference and a threshold and to detect an anomaly along a telecommunication line based on the comparison [Figs. 1-6; col. 5, line 10 to col. 7, line 65].”

Applicants respectfully submit that, contrary to the assertions in the Office Action, *Iga* fails to suggest detecting an anomaly along a telecommunication line by comparing a threshold and a difference between the “tap coefficients” recited by claim 1. In this regard, the “tap coefficients” recited by claim 1 are associated with the taps of an “echo canceler.” The “tap coefficients”

described by *Iga* are apparently associated with an equalizer, not an “echo canceler.” See column 5, lines 32-33 and 62-65. In fact, it does not appear that the system disclosed by *Iga* even employs an “echo canceler.” Neither *Jones* nor *Iga* provides any reason whatsoever for applying *Iga*’s alleged “anomaly” detection techniques to the coefficients associated with the taps of an “echo canceler.”

In addition, Applicants respectfully disagree with the assertions in the Office Action that the alleged analysis performed by *Iga* detects an “anomaly along a telecommunication,” as recited by claim 1. In this regard, the alleged tap coefficient comparisons performed by *Iga* are apparently for the purpose of determining whether ghost artifacts in a received video signal are present (*i.e.*, whether “equilibrium” has been reached). If “equilibrium” is not reached, then the equalizer coefficients are apparently updated in an attempt to better cancel the ghost artifacts. See column 6, lines 50-52, and column 5, lines 65-66. Thus, the alleged “anomaly” that is detected appears to be in the received video signal and is not “along a telecommunication line.” Even if the alleged “anomaly” of *Iga* could somehow be construed as being “along a telecommunication line,” as recited by claim 1, during transmission of the video signal containing the “anomaly”, the alleged “anomaly” is not “along a telecommunication line” when “detected” by the alleged “anomaly detection logic.” Applicants respectfully submit that the alleged “anomaly” detected by *Iga* cannot constitute an “anomaly along a telecommunication line,” as recited by claim 1. Accordingly, the Office Action fails to establish a *prima facie* case of obviousness with respect to claim 1.

Furthermore, in addition to the reasons set forth above, Applicants respectfully traverse the Office Action assertion that the comparison performed by *Iga* is performed in order to detect “an anomaly along a telecommunication line.” In this regard, there is nothing in *Iga* to indicate that the video signal containing the alleged “anomaly” is transmitted “along a telecommunication line.” In fact, given that *Iga* is attempting to compensate for “ghost phase fluctuation caused by weather changes,” it appears that the video signal is transmitted in free space (*i.e.*, is wireless). See

column 2, lines 4-6. Accordingly, there is apparently no “telecommunication line,” and alleging that *Iga* teaches the detection of an “anomaly along a telecommunication line” is a mischaracterization of *Iga*.

For at least the above reasons, Applicants respectfully assert that the cited art fails to suggest each feature of claim 1.

### **Improper Combination**

In addition to the reasons set forth above, Applicants respectfully submit that the alleged combination of *Jones* and *Iga* is improper under 35 U.S.C. §103 and that the Office Action, therefore, fails to establish a *prima facie* case of obviousness. In this regard, “(t)he PTO has the burden under section 103 to establish a *prima facie* case of obviousness. It can satisfy this burden only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references.” *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988) (Citations omitted).

In rejecting claim 1, it is alleged in the Office Action that:

“At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the teachings of *Iga* with *Jones et al* in order to provide an alternate approach to detect anomalies using the two sets of echo canceller filter coefficients.”

*Jones* indeed describes a system that detects telecommunication line anomalies. However, as described above, *Iga* does not appear to suggest an “alternate approach to detect anomalies” of a telecommunication line but rather an approach to detect whether ghost artifacts are present in a received video signal. Such “approaches” appear to be for entirely different purposes and alleging that one is an alternative to the other is not a fair characterization of the teachings of *Jones* and *Iga*. In fact, as set forth above, it does not appear that the system described by *Iga* even employs a “telecommunication line.” Moreover, Applicants submit that the proffered reason for

combining the select teachings of *Jones* and *Iga* is not sufficiently supported by the cited art, and the Office Action, therefore, fails to establish a *prima facie* case of obviousness, as required by *In re Fine*.

In responding to Applicants' arguments in the First Response filed on August 16, 2007, it is alleged in the outstanding Office Action that:

"In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F. 2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Iga detects tap coefficients above a specified level based on finding the difference (i.e. anomaly) of the respective values of the new and old tap coefficients [col. 7, lines 1-64]. ***Jones et al utilize those coefficients*** to determine the location of the line anomalies [Fig. 19; col. 25, lines 2-8]. Thus, one of ordinary skill in the art, at the time the invention was made, would have been motivated to combine the teachings of Iga with Jones et al in order to realize the claimed invention." (Emphasis added).

However, contrary to the assertions in the Office Action, *Jones* does not actually use the same coefficients as *Iga*. In this regard, the coefficients described at the cited section of *Jones* (i.e., col. 25, lines 2-8,) appear to be for an echo canceler, which uses the coefficients in an effort to remove reflections of a signal communicated over a telecommunication line. The coefficients described in *Iga*, however, are apparently for an equalizer. See column 5, lines 32-33 and 62-65. Accordingly, the Office Action fails to meet its burden of establishing a *prima facie* case of obviousness.

In addition, Applicants submit that the differences between *Jones* and *Iga* should be viewed in the context of the different purposes of these two references. The Federal Circuit has repeatedly held that the results achieved by prior art references are important considerations under 35 U.S.C. §103. "In determining the relevant art of the claims in suit one looks to the nature of the problem confronting the inventor." *Orthopedic Equipment Co. Inc. v. United States*, 702 F.2d 1005, 1009, 217 U.S.P.Q. 193 (Fed. Cir. 1983). "Critical to the analysis is an understanding

of the particular results achieved by the new combination.” *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1143, 227 U.S.P.Q. 543 (Fed. Cir. 1985). “The problem confronted by the inventor **must** be considered in determining whether it would have been obvious to combine references in order to solve that problem.” *Diversitech Corp. v. Century Steps, Inc.*, 850 F.2d 675, 679, 7 U.S.P.Q.2d 1315 (Fed. Cir. 1988) (emphasis added). In the instant case, there is nothing **in the cited art** to suggest that the analysis performed by *Iga* would be at all useful to assist in locating the source of telecommunication line anomalies, which is the problem being addressed by *Jones* and confronted by Applicants. Indeed, instead of detecting anomalies or defects in a telecommunication line, the primary purpose of *Iga* is apparently to detect whether ghost artifacts are present in video signals so that these artifacts can be better eliminated by an equalizer. Thus, unlike *Jones*, *Iga* is not apparently attempting to detect or locate the source of any line anomaly but is instead attempting to detect ghost artifacts, which are described in *Iga* as being caused by weather changes. See column 2, lines 5-6. Moreover, nothing in *Iga* suggests that the described algorithm should be used to detect the telecommunication line anomalies described by *Jones* or even used within the context of an echo canceler instead of an equalizer. When the cited art is properly viewed as a whole, including consideration of the differing results achieved by *Jones* and *Iga*, it is readily apparent that the combination of *Jones* and *Iga* is not properly based on the teachings of the prior art but is instead based on impermissible hindsight reconstruction of Applicants' invention.

In fact, when the teachings of the cited art are properly viewed as a whole, it becomes apparent that *Iga* teaches away from the alleged combination. In this regard, equation (8) described at column 6, lines 45-50, of *Iga* apparently combines the coefficients of several different taps. In particular, the squares of the “old” coefficients for multiple taps are summed, and this summation, which represents a combination of squared tap coefficients from multiple taps, is subtracted from the summation of the squares of the “new” coefficients for these same taps.

Combining the coefficients of multiple taps in this way would tend to obfuscate the fluctuations experienced by any one of the taps presumably making it more difficult to detect and/or pinpoint, based on the results of equation (8), the location of a telecommunication line anomaly, which is the type of anomaly being detected by *Jones*. "(P)rior art references before the tribunal must be read as a whole and consideration must be given where the references diverge and teach away from the claimed invention." *Akzo N.V. v. U.S. International Trade Commission*, 808 F.2d 1471, 1481, 1 U.S.P.Q.2d 1291 (Fed. Cir. 1986), *cert denied*, 482 U.S. 909. Moreover, when the teachings of *Jones* and *Iga* are properly viewed as a whole, it is apparent that the cited art lacks a sufficient motivation for combining the select teachings of *Iga* with the select teachings of *Jones*. In fact, considering the entirely different purposes of the two references, Applicants respectfully submit that it has not been sufficiently established that a person seeking solutions to the problems encountered by *Jones* would find it obvious or desirable to even consult *Iga*.

For at least the above reasons, Applicants respectfully submit that the alleged combination of *Jones* and *Iga* is improper and fails to suggest each feature of pending claim 1. Therefore, the 35 U.S.C. §103 rejection of claim 1 should be withdrawn.

#### **Claims 2-5 and 24-27**

Claims 2-5 and 24-27 presently stand rejected in the Office Action under 35 U.S.C. §103 as allegedly being unpatentable over *Jones* in view of *Iga* and further in view of *Galand* (U.S. Patent no. 4,764,955). Applicants submit that the pending dependent claims 2-5 and 24-27 contain all features of their respective independent claim 1. Since claim 1 should be allowed, as argued hereinabove, pending dependent claims 2-5 and 24-27 should be allowed as a matter of law for at least this reason. *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988). Furthermore, these dependent claims recite patentably distinct features and/or combinations of features that make them allowable, notwithstanding the allowability of their base claim 1.

For example, claim 3 recites “wherein the anomaly detection logic is configured to maintain a running sum of a total number of anomaly indications detected by the anomaly detection logic...” It is asserted in the Office Action that the foregoing features of claim 3 are suggested by *Jones* at column 25, lines 1-8. However, Applicants respectfully assert that there is no “running sum” suggested at the cited section of *Jones*. Accordingly, the Office Action fails to establish a *prima facie* case of obviousness with respect to claim 3, and the 35 U.S.C. §103 rejection of dependent claim 3 should be withdrawn, notwithstanding the allowability of independent claim 1.

In addition, claim 5 recites “wherein the anomaly detection logic is configured to perform a second comparison between a threshold and a value indicative of an error rate associated with the telecommunication line...” It is asserted in the Office Action that the foregoing features of claim 5 are suggested by *Iga* at column 7, lines 44-64. The cited section of *Iga* describes a “third embodiment” that uses differences in the sums of the squares of new and old error signals to determine whether equilibrium has been reached. Other embodiments use differences in the sums of the squares of equalizer tap coefficients to make the same determination. However, *Iga* fails to suggest a single embodiment in which both error signals and tap coefficients are used to make an equilibrium determination. Claim 5, on the other hand, recites that an anomaly is detected based on both a comparison between a threshold and a difference between “tap coefficients,” as recited by claim 1, **and** a comparison between a threshold and a “value indicative of an error rate,” as recited by claim 5. Thus, the Office Action fails to establish a *prima facie* case of obviousness with respect to claim 5, and the 35 U.S.C. §103 rejection of this dependent claim should be withdrawn, notwithstanding the allowability of independent claim 1.

Also, claim 24 recites “wherein the anomaly is a degraded splice along the telecommunication line.” Applicants respectfully submit that *Iga* teaches away from these features and, therefore, should not be used to reject claim 24 under 35 U.S.C. §103. In this regard, *Iga* specifically teaches that the “anomalies” being detected are the presence of ghost artifacts in



video signals. See column 5, lines 62-65, and column 6, lines 50-55 and 65-68. *Iga* also teaches that such artifacts are the result of weather changes. See column 2, lines 5-6. Accordingly, one of ordinary skill in the art would be discouraged from using the techniques described by *Iga* to detect a “degraded splice” of a telecommunication line. “A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant...” *In re Gurley*, 2 F.3d 551, 31 U.S.P.Q.2d 1130, 1131 (Fed. Cir. 1994). Applicants respectfully submit that the 35 U.S.C. §103 rejection of claim dependent 24 is improper and should be withdrawn, notwithstanding the allowability of independent claim 1.

Furthermore, claim 25 recites “wherein the anomaly causes a resistance at a point along the telecommunication line to vary over time.” Applicants respectfully submit that *Iga* teaches away from these features and, therefore, should not be used to reject claim 25 under 35 U.S.C. §103. In this regard, *Iga* specifically teaches that the “anomalies” being detected are the presence of ghost artifacts in video signals. See column 5, lines 62-65, and column 6, lines 50-55 and 65-68. Such an “anomaly” does not appear to have any effect on the resistance of the telecommunication line over which it is transmitted. Accordingly, one of ordinary skill in the art would be discouraged from using the techniques described by *Iga* to detect the type of “anomaly” recited by claim 25. “A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant...” *In re Gurley*, 2 F.3d 551, 31 U.S.P.Q.2d 1130, 1131 (Fed. Cir. 1994). Applicants respectfully submit that the 35 U.S.C. §103 rejection of claim dependent 25 is improper and should be withdrawn, notwithstanding the allowability of independent claim 1.

In addition, claim 27 recites “wherein the anomaly detection logic is configured to indicate, based on the comparison, a location of the anomaly.” Applicants respectfully submit that *Iga*

teaches away from these features and, therefore, should not be used to reject claim 24 under 35 U.S.C. §103. In this regard, *Iga* specifically teaches that the “anomalies” being detected are the presence of ghost artifacts in video signals. See column 5, lines 62-65, and column 6, lines 50-55 and 65-68. Such an “anomaly” is within the video signal being transmitted, not at a point on a telecommunication line. In fact, as set forth above, it does not appear that a “telecommunication line” is even used to transmit the video signal. Accordingly, for the type of “anomaly” being detected by *Iga*, one of ordinary skill in the art would be discouraged from displaying “a location of the anomaly on the telecommunication line,” as recited by claim 27. “A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant...” *In re Gurley*, 2 F.3d 551, 31 U.S.P.Q.2d 1130, 1131 (Fed. Cir. 1994). Applicants respectfully submit that the 35 U.S.C. §103 rejection of claim dependent 27 is improper and should be withdrawn, notwithstanding the allowability of independent claim 1.

#### **Claim 7**

Claim 7 presently stands rejected under 35 U.S.C. §103 as purportedly being unpatentable over *Jones* in view of *Iga*. Claim 7 reads as follows:

7. An anomaly detection system, comprising:  
an echo canceler having a plurality of taps respectively associated with a plurality of tap coefficients; and  
anomaly detection logic configured to determine when at least one of the tap coefficients fluctuates by at least a specified amount and ***to detect an anomaly along a telecommunication line based on a detection, by the logic, that the at least one tap coefficient fluctuated by at least the specified amount.*** (Emphasis added).

For at least reasons similar to those set forth above in the arguments for allowance of claim 1, Applicants respectfully assert that the alleged combination of *Jones* and *Iga* is improper and also

fails to suggest at least the features of claim 7 highlighted above. Thus, the 35 U.S.C. §103 rejection of claim 7 should be withdrawn.

### **Claims 8, 9, and 28-30**

Claims 8, 9, and 28-30 presently stand rejected in the Office Action under 35 U.S.C. §103 as allegedly being unpatentable over *Jones* in view of *Iga* and further in view of *Galand*. Applicants submit that the pending dependent claims 8, 9, and 28-30 contain all features of their respective independent claim 7. Since claim 7 should be allowed, as argued hereinabove, pending dependent claims 8, 9, and 28-30 should be allowed as a matter of law for at least this reason. *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988). Furthermore, these dependent claims recite patentably distinct features and/or combinations of features that make them allowable, notwithstanding the allowability of their base claim 7.

For example, pending claim 8 recites “wherein the anomaly detection logic is further configured to maintain a running sum indicative of a number of times that the logic detects the at least one tap fluctuating by at least the specified amount...” For at least reasons similar to those set forth above in the arguments for allowance of claim 3, Applicants respectfully assert that the cited art fails to suggest the “running sum” recited by claim 8. Accordingly, the 35 U.S.C. §103 rejection of dependent claim 8 should be withdrawn, notwithstanding the allowability of independent claim 7.

In addition, claim 28 recites “wherein the anomaly is a telecommunication line splice that is degrading communication occurring over the telecommunication line...” For at least reasons similar to those set forth above in the arguments for allowance of claim 24, Applicants respectfully assert that *Iga* teaches away from such features of claim 28. Accordingly, the 35 U.S.C. §103 rejection of dependent claim 28 is improper and should be withdrawn, notwithstanding the allowability of independent claim 7.

### Claim 10

Claim 10 presently stands rejected under 35 U.S.C. §103 as purportedly being unpatentable over *Jones* in view of *Iga*. Claim 10 reads as follows:

10. An anomaly detection system, comprising:  
an echo canceler having a plurality of taps respectively associated with a plurality of tap coefficients; and  
anomaly detection logic configured to establish a set of baseline tap coefficients based on the tap coefficients, ***the anomaly detection logic configured to compute differences between new tap coefficients of the echo canceler and the baseline tap coefficients and to detect, based on the differences, a time varying anomaly along a telecommunication line at a junction of two sections of the telecommunication line.*** (Emphasis added).

For at least reasons similar to those set forth above in the arguments for allowance of claim 1, Applicants respectfully assert that the alleged combination of *Jones* and *Iga* is improper and also fails to suggest at least the features of claim 10 highlighted above. Thus, the 35 U.S.C. §103 rejection of claim 10 is improper.

In addition, Applicants respectfully submit that *Iga* teaches away from the highlighted features of claim 10 and, therefore, should not be used to reject this claim under 35 U.S.C. §103. In this regard, *Iga* specifically teaches that the “anomalies” being detected are the presence of ghost artifacts in video signals. See column 5, lines 62-65, and column 6, lines 50-55 and 65-68. Such an “anomaly” is within the video signal being transmitted, not “at a junction of two section of the telecommunication line,” as recited by claim 10. In fact, as set forth above, it does not appear that a “telecommunication line” is even used to transmit the video signal. Accordingly, one of ordinary skill in the art would be discouraged from using the techniques described by *Iga* to detect the type of “anomaly” recited by claim 10. “A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out

in the reference, or would be led in a direction divergent from the path that was taken by the applicant..." *In re Gurley*, 2 F.3d 551, 31 U.S.P.Q.2d 1130, 1131 (Fed. Cir. 1994).

For at least the above reasons, Applicants respectfully submit that the 35 U.S.C. §103 rejection of claim 10 should be withdrawn.

#### **Claims 11, 12, and 14**

Claims 11, 12, and 14 presently stand rejected in the Office Action under 35 U.S.C. §103 as allegedly being unpatentable over *Jones* in view of *Iga* and further in view of *Galand*. Applicants submit that the pending dependent claims 11, 12, and 14 contain all features of their respective independent claim 10. Since claim 10 should be allowed, as argued hereinabove, pending dependent claims 11, 12, and 14 should be allowed as a matter of law for at least this reason. *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988).

#### **Claim 15**

Claim 15 presently stands rejected under 35 U.S.C. §103 as purportedly being unpatentable over *Jones* in view of *Iga*. Claim 15 reads as follows:

15. An anomaly detection method, comprising the steps of:  
***determining a difference between a new tap coefficient associated with a tap of an echo canceler and a previous tap coefficient associated with the tap;***  
***comparing the difference to a threshold; and***  
***detecting an anomaly along a telecommunication line based on the comparing step, the anomaly causing a time varying change in a transmission characteristic of a point along the transmission line.*** (Emphasis added).

For at least reasons similar to those set forth above in the arguments for allowance of claim 1, Applicants respectfully assert that the alleged combination of *Jones* and *Iga* is improper and also

fails to suggest at least the features of claim 15 highlighted above. Thus, the 35 U.S.C. §103 rejection of claim 15 is improper.

In addition, Applicants respectfully submit that *Iga* teaches away from the highlighted features of claim 15 and, therefore, should not be used to reject this claim under 35 U.S.C. §103. In this regard, *Iga* specifically teaches that the “anomalies” being detected are the presence of ghost artifacts in video signals. See column 5, lines 62-65, and column 6, lines 50-55 and 65-68. Such an “anomaly” does not appear to have any effect on “a transmission characteristic of a point along the transmission line,” as recited by claim 15. Accordingly, one of ordinary skill in the art would be discouraged from using the techniques described by *Iga* to detect the type of “anomaly” recited by claim 15. “A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant...” *In re Gurley*, 2 F.3d 551, 31 U.S.P.Q.2d 1130, 1131 (Fed. Cir. 1994).

For at least the above reasons, Applicants respectfully submit that the 35 U.S.C. §103 rejection of claim 15 should be withdrawn.

#### **Claim 16**

Claim 16 presently stands rejected under 35 U.S.C. §103 as purportedly being unpatentable over *Jones* in view of *Iga*. Claim 16 reads as follows:

16. An anomaly detection method, comprising the steps of:  
monitoring a plurality of tap coefficients of an echo canceler;  
***determining when at least one of the tap coefficients fluctuates by at least a specified amount; and***  
***detecting an anomaly along a telecommunication line based on the determining step, the anomaly causing a time varying change in resistance at a point along the transmission line.*** (Emphasis added).

For at least reasons similar to those set forth above in the arguments for allowance of claim 1, Applicants respectfully assert that the alleged combination of *Jones* and *Iga* is improper and also fails to suggest at least the features of claim 16 highlighted above. Thus, the 35 U.S.C. §103 rejection of claim 16 is improper.

In addition, Applicants respectfully submit that *Iga* teaches away from the highlighted features of claim 16 and, therefore, should not be used to reject this claim under 35 U.S.C. §103. In this regard, *Iga* specifically teaches that the “anomalies” being detected are the presence of ghost artifacts in video signals. See column 5, lines 62-65, and column 6, lines 50-55 and 65-68. Such an “anomaly” does not appear to have any effect on the “resistance at a point along the transmission line,” as recited by claim 16. Accordingly, one of ordinary skill in the art would be discouraged from using the techniques described by *Iga* to detect the type of “anomaly” recited by claim 16. “A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant...” *In re Gurley*, 2 F.3d 551, 31 U.S.P.Q.2d 1130, 1131 (Fed. Cir. 1994).

For at least the above reasons, Applicants respectfully submit that the 35 U.S.C. §103 rejection of claim 16 should be withdrawn.

### **Claims 17 and 18**

Claims 17 and 18 presently stand rejected in the Office Action under 35 U.S.C. §103 as allegedly being unpatentable over *Jones* in view of *Iga* and further in view of *Galand*. Applicants submit that the pending dependent claims 17 and 18 contain all features of their respective independent claim 16. Since claim 16 should be allowed, as argued hereinabove, pending dependent claims 17 and 18 should be allowed as a matter of law for at least this reason. *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988). Furthermore, these dependent claims recite

patentably distinct features and/or combinations of features that make them allowable, notwithstanding the allowability of their base claim 16.

For example, claim 17 recites “maintaining a running sum indicating a number of times that the at least one tap coefficient fluctuates by at least the specified amount...” For at least reasons similar to those set forth above in the arguments for allowance of claim 3, Applicants respectfully assert that the cited art fails to suggest the “running sum” recited by claim 17. Accordingly, the 35 U.S.C. §103 rejection of dependent claim 17 should be withdrawn, notwithstanding the allowability of independent claim 16.

### **Claim 19**

Claim 19 presently stands rejected under 35 U.S.C. §103 as purportedly being unpatentable over *Jones* in view of *Iga*. Claim 19 reads as follows:

19. An anomaly detection method, comprising the steps of:  
establishing a set of baseline tap coefficients based on a set of tap coefficients of an echo canceler;  
***computing differences between the baseline tap coefficients and new tap coefficients of the echo canceler; and***  
***detecting an anomaly along a telecommunication line based on the differences, the anomaly causing a time varying change in resistance at a junction of two sections of the telecommunication line.*** (Emphasis added).

For at least reasons similar to those set forth above in the arguments for allowance of claim 1, Applicants respectfully assert that the alleged combination of *Jones* and *Iga* is improper and also fails to suggest at least the features of claim 19 highlighted above. Thus, the 35 U.S.C. §103 rejection of claim 19 is improper.

In addition, Applicants respectfully submit that *Iga* teaches away from the highlighted features of claim 19 and, therefore, should not be used to reject this claim under 35 U.S.C. §103. In this regard, *Iga* specifically teaches that the “anomalies” being detected are the presence of ghost artifacts in video signals. See column 5, lines 62-65, and column 6, lines 50-55 and 65-68.



Such an "anomaly" does not appear to have any effect on the "resistance at a junction of two section of the transmission line," as recited by claim 19. Accordingly, one of ordinary skill in the art would be discouraged from using the techniques described by *Iga* to detect the type of "anomaly" recited by claim 19. "A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant..."

*In re Gurley*, 2 F.3d 551, 31 U.S.P.Q.2d 1130, 1131 (Fed. Cir. 1994).

For at least the above reasons, Applicants respectfully submit that the 35 U.S.C. §103 rejection of claim 19 should be withdrawn.

#### **Claims 20, 21, and 23**

Claims 20, 21, and 23 presently stand rejected in the Office Action under 35 U.S.C. §103 as allegedly being unpatentable over *Jones* in view of *Iga* and further in view of *Galand*. Applicants submit that the pending dependent claims 20, 21, and 23 contain all features of their respective independent claim 19. Since claim 19 should be allowed, as argued hereinabove, pending dependent claims 20, 21, and 23 should be allowed as a matter of law for at least this reason. *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988).

### **Claim 31**

Claim 31 presently stands rejected under 35 U.S.C. §103 as purportedly being unpatentable over *Jones* in view of *Iga*. Claim 31 reads as follows:

31. A system, comprising:  
a receiver coupled to a telecommunication line, the receiver configured to receive digital signals transmitted from a remote transmitter via the telecommunication line, ***the telecommunication line having a time varying anomaly causing a resistance at a point on the telecommunication line to fluctuate over time thereby degrading the digital signals***; and  
***anomaly detection logic configured to detect the anomaly and to provide an indication of a location of the anomaly.***

For at least reasons similar to those set forth above in the arguments for allowance of claim 1, Applicants respectfully assert that the alleged combination of *Jones* and *Iga* is improper and also fails to suggest at least the features of claim 31 highlighted above. Thus, the 35 U.S.C. §103 rejection of claim 31 is improper.

In addition, Applicants respectfully submit that *Iga* teaches away from the highlighted features of claim 16 and, therefore, should not be used to reject this claim under 35 U.S.C. §103. In this regard, *Iga* specifically teaches that the “anomalies” being detected are the presence of ghost artifacts in video signals. See column 5, lines 62-65, and column 6, lines 50-55 and 65-68. Such an “anomaly” does not appear to have any effect on the “resistance at a point along the transmission line,” as recited by claim 31. Accordingly, one of ordinary skill in the art would be discouraged from using the techniques described by *Iga* to detect the type of “anomaly” recited by claim 31. “A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant...” *In re Gurley*, 2 F.3d 551, 31 U.S.P.Q.2d 1130, 1131 (Fed. Cir. 1994). In addition, for at least reasons similar to those set forth above in the arguments for allowance of claim 27, Applicants respectfully assert that *Iga*

teaches away from the features of the “anomaly detection logic configured to... provide an indication of the anomaly,” as recited by claim 31.

For at least the above reasons, Applicants respectfully submit that the 35 U.S.C. §103 rejection of claim 31 should be withdrawn.

### **Claims 32 and 33**

Claim 32 presently stands rejected under 35 U.S.C. §103 as purportedly being unpatentable over *Jones* in view of *Iga*. Claim 33 presently stands rejected in the Office Action under 35 U.S.C. §103 as allegedly being unpatentable over *Jones* in view of *Iga* and further in view of *Galand*. Applicants submit that the pending dependent claims 32 and 33 contain all features of their respective independent claim 31. Since claim 31 should be allowed, as argued hereinabove, pending dependent claims 32 and 33 should be allowed as a matter of law for at least this reason. *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988).

### **Allowable Subject Matter**

Claim 22 is allowed, and claims 6 and 13 have been indicated as allowable by the outstanding Office Action if such claims are rewritten to include the limitations of their respective base claims. For at least the reasons set forth hereinabove, Applicants submit that the respective base claims of claims 6 and 13 are allowable and claims 6 and 13 are, therefore, allowable as a matter of law. *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988).

### **CONCLUSION**

Applicants respectfully request that all outstanding objections and rejections be withdrawn and that this application and all presently pending claims be allowed to issue. If the Examiner has any questions or comments regarding Applicants' response, the Examiner is encouraged to telephone Applicants' undersigned counsel.

Respectfully submitted,

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